

Developing Navigation Standards

The IMO Subcommittee on Safety of Navigation.

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Shipping is perhaps the most international of the world's industries, serving more than 90 percent of global trade.¹ The ownership and management chain surrounding any ship can include many countries, and ships may spend their economic lives moving through different jurisdictions, often far from the country of registry.

There is, therefore, a need for international standards that can be adopted and accepted by all to regulate shipping. The first maritime treaties date back to the 19th century. Later, the *Titanic* disaster gave rise to the first international Safety of Life at Sea (SOLAS) convention, still the most important treaty addressing maritime safety.

The International Maritime Organization

The International Maritime Organization (IMO) is a specialized agency of the United Nations, based in the United Kingdom, with 169 member states and three associate members. The convention establishing IMO was adopted in Geneva in 1948, and it first met in 1959.

IMO's main task has been to develop and maintain a comprehensive regulatory framework for shipping. Its responsibility today includes safety, environmental concerns, legal matters, technical cooperation, maritime security, and shipping efficiency.

The organization consists of an assembly, a council, and five main committees:

- the Maritime Safety Committee,
- the Marine Environment Protection Committee,
- the Legal Committee,
- the Technical Co-operation Committee,
- the Facilitation Committee.

The Maritime Safety Committee is the highest technical body of the organization. It consists of all member states, and its functions are to consider any matter within the scope of the organization concerned with:

- aids to navigation,
- vessel construction and equipment,
- manning from a safety standpoint,
- rules to prevent collisions,
- handling dangerous cargoes,
- maritime safety procedures and requirements,
- hydrographic information,
- log books and navigational records,
- marine casualty investigations,
- salvage and rescue.

The NAV Subcommittee

Under the instructions of the Maritime Safety Committee and with input from the Marine Environmental Protection Committee, the Subcommittee on Safety of Navigation (NAV) considers matters related to obliga-

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tions of governments and operational measures related to safety of navigation, including:

- hydrographic and meteorological services;
- ships' routing;
- ship reporting systems;
- aids to navigation;
- radio navigation systems;
- vessel traffic services and pilotage, including the role of such measures in the protection of the marine environment;
- carriage requirements;
- performance standards and operational guidelines for the use of shipborne navigational equipment and other navigational requirements, including bridge design, bridge visibility, and pilot transfer arrangements;
- operational requirements and guidelines relating to navigational safety and associated issues, such as regulations for the prevention of collisions and groundings, bridge procedures, voyage planning, avoidance of dangerous situations, places of refuge, and relevant aspects of maritime security.

The subcommittee is charged to develop any necessary amendments to relevant conventions and other instruments, as well as to prepare new instruments, guidelines, and recommendations for consideration by the committees.

Major Developments

At a typical session, the NAV will consider more than a dozen ship routing or reporting proposals. Many of them are quite complex and require careful examination to ensure they meet the criteria of the general provisions on ships' routing. Over the past three NAV sessions the subcommittee has taken action on a number of proposals.

Of particular interest to the U.S.: Amendments were approved to the existing traffic separation scheme in the approach to Boston, Mass., that moved ship traffic away from the preferred feeding grounds of the Northern Right Whale.

Areas to be avoided and mandatory "no anchoring" areas were approved for two offshore liquefied natural gas facilities off the northeast U.S. coast to caution mariners of their presence and provide a measure of protection for the facilities.

In other action: The subcommittee developed a safety of navigation circular providing information on the inter-

nationally recommended transit corridor for ships transiting the Gulf of Aden, which is intended to reduce the risk of acts of piracy against ships in the area.

The subcommittee also approved a draft circular on assuring safety during demonstrations, protests, or confrontations on the high seas to address, in particular, the interactions between environmentalists and whaling ships.

The NAV approved amendments to SOLAS V regulation 23 and assembly resolution A.889(21) to update the requirements relating to pilot transfer arrangements.

It also approved amendments to SOLAS V regulation 19 to reflect a new carriage requirement for a bridge navigational watch alarm system to monitor bridge activity and detect operator disability that might lead to marine casualties.

An additional amendment to SOLAS V regulation 19 was approved to establish a mandatory carriage requirement for the Electronic Chart Display and Information System (ECDIS), thus bringing the most advanced charting technology to ship bridges.

The subcommittee also approved a revised text of assembly resolution A.953(23), updating technical specifications of the worldwide radio navigation system.

Additionally, the NAV developed a safety of navigation circular on guidelines for bridge equipment and systems arrangement and integration to enhance ergonomics and interoperability on the bridge.

The subcommittee approved a safety of navigation circular on guidance for Automatic Information System application-specific messages information.

It prepared a draft Maritime Safety Committee resolution on performance standards for bridge alert management to categorize and prioritize onboard alarms so a particular failure may be more easily identified.

Looking Ahead

Since its first session in 1966, which was almost exclusively devoted to collision regulations, operational requirements of special types of craft, and requirements for fishing vessels, the NAV agenda has expanded dramatically.

Incremental advances in technology have driven this expansion over the years, but more recently computerization and the development of integrated bridge sys-

NAV Review

The conventions and other mandatory instruments subject to Subcommittee on Safety of Navigation review include:

- the 1974 SOLAS Convention (chapter V and other relevant chapters, as appropriate) and the 1988 Protocol;
- the International Regulations for Preventing Collisions at Sea, 1972;
- the International Code of Signals;
- the International Code of Safety for High-Speed Craft (HSC Code), 1994 and 2000, Chapter 13.

The non-mandatory instruments that the subcommittee may be called upon to review include:

- recommendations on performance standards for various shipborne navigational equipment,
- general provisions on ships' routing,
- guidelines and criteria for ship reporting systems,
- general principles for ship reporting systems and ship reporting requirements,
- guidelines on vessel traffic services,
- guidelines on the operation of AIS on ships,
- IMO standard marine communication phrases,
- recommendation on pilot transfer arrangements,
- guidelines for recording events related to navigation,
- guidelines for voyage planning,
- revised maritime policy and requirements for a future global navigation system,
- the worldwide radio navigation system,
- guidelines on places of refuge for ships in need of assistance,
- maritime assistance services.

tems have created a greater surge. For example, for decades radar was a stand-alone device. Now it is possible to have a display for radar, or ECDIS, or both, that also displays Automatic Information System information and records all the required data in the ship's voyage data recorder.

This, of course, requires all the performance and technical standards to be consistent so the various equipment and systems can properly interact to provide timely and accurate information to the mariner. As NAV continues to pursue these tasks, it contributes in

large measure to IMO's mission—safe, secure, and efficient shipping on clean oceans.

Endnote:

¹ <http://www.imo.org>

About the author:

Mr. LaRue holds a B.S. in marine transportation from the State University of New York Maritime College. He sailed for nine years as a deck watch officer on various ships as a member of the International Organization of Masters, Mates, and Pilots. Mr. LaRue is presently the chief of the Navigation Standards Division in the U.S. Coast Guard Marine Transportation Systems Management Directorate. He has been a member of the U.S. delegation to the IMO Subcommittee on Safety of Navigation for more than 20 years.